

THE COLLIDING VIRTUAL AND PHYSICAL ACADEMIC WORKING ENVIRONMENT

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ABSTRACT

This paper examines the identity processes, and routines of academic teams working within the intersection of a virtual and physical working environment within higher education with the aim of proposing an approach to designing a process that supports collaborative academic work. With cost-orientated moves to expanding online provision through emergent technologies and the growth of alternative HE strategies, traditional group-orientated academic interactions are colliding with the virtual working environment after a shift from a physical environment which now requires academics to alter previously embedded working routines and in consequence impacting academic identity processes. This paper takes the following areas into consideration: workspace environment, mixed virtual and on-ground team work, academic identity and organization culture. This research employs a cross-sectional research methodology including observation, sociocultural narrative interviews, surveys, and diary studies to gain a better understanding of the learning routines that exist for mixed virtual and physical teams, the tools and spaces used to support them, and the management styles that guide them. The data collected from these tools will provide understanding of the implications of identity processes within the organisation cultural setting of a higher education institute undergoing radical change within their composition of physical and virtual working environments and is designed to give insight into the physical and virtual needs of mixed academic teams. The investigation adds to emerging literature within this virtual and physical intersection of the working environment within the context of a move within academia towards distance working.

KEYWORDS

Academic Identity, Working Environment, Virtual

1. INTRODUCTION

This paper situates itself within an economy characterized by rapidly growing digital transformation and automation, developing artificial intelligence, and global interconnectivity as higher education increasingly seeks to leverage the gig economy and digital labor to become more agile and innovative. The report “Independent work: Choice, necessity, and the gig economy” describes a trending movement from well-defined occupations to project-based work, from salaried jobs to independent work (Manyika, Lund, Bughin, Robinson, Mischke & Mahajan, 2016). The implications of these shifting economic development strategies has been a radical change to the traditional models and tools used within the working environment (Graham, Hjorth & Lehdonvirta, 2017). Whilst developments towards digital work have often been coupled with growth of managerial influence in higher education, they remain distinct, if overlapping, trends. With the development of technologically-enhanced initiatives the physical and virtual boundaries of academics and how and where they conduct teaching and academic team work in higher education are becoming less distinct. These initiatives can have an impact on academic team practices, with changes resulting from the availability of new technological frameworks that impact established, personalised teaching and academic team work. Collins, Glover and Myers (2017) propose that a large proportion of these changes and standardisations of service are located within wider HE governance literature. Universities have seen a perceived trend towards managerialism, with coherence emerging around principles of efficiency, productivity, and commercial focus at the expense of a historical collegiality and academic autonomy. These ideas when coupled with what Knights and Clarke (2014) have identified in practice as the introduction of accountability and monitoring results in both the need for academics to work at the intersection of virtual and physical and deal with the notion that technology has enabled managerial initiative of control and monitoring

to be easily introduced. This context may have significant effects on identity process within the changing physical and virtual working environment. In addition we realize that building an effective team within an organization can be difficult without clear guidelines for practice and assessment (Garvin, 1993), especially considering an increasing investment in digital academic teams. Dixon describes teams as an essential unit within organizations: “because teams are where strategy is turned into action, it is essential that teams are able to learn” (2017). Academic organizations must design working environments that support the managerial styles and functions of specific teams, encouraging greater satisfaction and motivation of individuals in the long-term, and capturing the contributions of transient short-term teams. Previous research has focused on individual productivity and “functional comfort” in the workplace (Vischer, 2008); but now there is an opportunity to explore the needs of academic working spaces, both physical and digital and ask how processes within an academic organization can be supported within the context of the intersection between physical and virtual workspaces. The focus of this paper is on the identity processes academics are experiencing during these transitions with the aim of producing a proposition for more effective team work processes. While there is no one solution to designing authentic user-friendly group working environments, thoughtful resolutions begin with a deeper understanding of a team’s specific management style and nature: their learning and interaction routines, their satisfaction with their current in-office placement or digital workspaces, and the tools they use.

2. BODY OF PAPER

How might we understand the changes in working routines and the identity processes of academics within higher education teams working at the crossroads of virtual and physical teams?

2.1 Literature Review

2.1.1 Teams

The 2017 State of the American Workplace report from global performance-management consultancy Gallup Inc. confirms: “The changes that are affecting organizations today are coming fast and furious...These changes are forcing organizations to reconsider how they manage and optimize performance in a time when the very essence of how, when and where people work and the value they place on work are shifting. New and emerging new technologies are transforming the way work gets done. More people do their job virtually or remotely and at various times of the day rather than between 8 a.m. and 5 p.m., and teams have fewer face-to-face interactions, communicating increasingly through email, instant messaging and conference calls” (p.4). In order to support collaborative working at the crossroads of virtual and physical teams in the context of this shifting work landscape, it is first necessary to define team structures, teaming routines, to explore the role of team managers, and to accept a framework of core group learning capabilities. The Business Dictionary defines teams as “a group of people with a full set of complementary skills required to complete a task, job, or project. Team members 1) operate with a high degree of interdependence, 2) share authority and responsibility for self-management, 3) are accountable for the collective performance, and 4) work toward a common goal and shared rewards.” Teams may be comprised of members with the same role or job title, or may be multidisciplinary. Traditionally, these groups have been led by and reported to managers who reported directly to their superiors and up the organizational chain, but today the structure and hierarchy for teams within organizations is less straightforward (Gallup, 2017). Gallup introduces the concept of matrixed teams as “environments in which employees work across multiple teams and with team members who may report to different managers” (p.131). According to the Gallup study, matrixed teams fall into three categories:

Slightly Matrixed 49% of American Workforce	“Employees who sometimes work on multiple teams with people who may or may not report to the same manager” (p.131).
Manager-Matrixed 18% of American Workforce	“Employees who work on multiple teams every day with different people but most team members report to the same manager” (p. 131).
Highly Matrixed 17% of American Workforce	“Employees who work on multiple teams every day with different people who report to different managers” (p. 131).

These categories impact overall work engagement (highly matrixed employees being more engaged than slightly matrixed employees), suggesting that “more-matrixed environments can result in improvements in the employee experience” (133). In addition to increasingly complex hierarchical structures (or lack thereof), the makeup of teams has also become more varied. While physical, or co-located, teams were once the norm, now virtual and physical teams utilize both virtual tools and physical spaces to learn and work. There are challenges associated with teamwork in any arrangement, however, as Mark Mortensen says in “A first-time manager’s guide to leading virtual teams”: Managing a distributed team can feel [particularly] overwhelming as it requires you to navigate many different types of distance: geographic, temporal, cultural, linguistic, and configurational (the relative number of members in each location). Every one of these dimensions affects team dynamics and, therefore, has an impact on effectiveness and performance as well” (HBR, 2015). Before developing recommendations for mixed academic teams specifically, it is important to understand which aspects of team dynamics are, and are not, affected by distance within a learning organization. In “Psychological safety and learning in organizations: a group-level lens” (1999) Edmonson identifies the specific actions that team members in any configuration and organization require to take for full knowledge to be available and these are, seeking feedback, sharing information, in particular the unique information each member holds , asking for help, testing assumptions ,dissociating differences of opinion openly, rather than privately or outside the group, talking about errors, experimenting and reflecting together on results. Dixon claims, “It is through such activities that teams can detect changes in the environment, learn about customers’ requirements, improve members’ collective understanding of a situation or discover unexpected consequences of their previous actions” (2017). According to Peter Senge’s seminal work, *The Fifth Discipline* (1990), these needs and actions can be more broadly categorized within the following “core capabilities”: Aspiration, understanding complexity, and reflective conversation. The way teams learn, communicate aspirations, collectively understand complexity, and engage in reflective conversation can be understood by studying teaming routines. Teaming routines are defined as “routines that enable coordination and collaboration between experts across multiple boundaries (Zuzul & Edmonson, 2016).” Dixon applies this definition to the special behaviors and actions of virtual teams: “to learn effectively teams must have developed an agreed upon goal toward which their learning is aimed, have the independence to experiment with actions to reach that goal and function within an environment of trust...to create team learning in a virtual setting, team leaders must establish teaming routines that facilitate each of those conditions” (2017). While the literature explores learning routines for both physical and virtual teams, there is a gap in secondary research on the learning routines for teams at the crossroads of both virtual and physical teams, in which some team members are based in a physical location while others engage via digital technology. In addition to the impact of hierarchy or the chain of command, leadership and management styles are also significant variables for team learning, growth, and overall success. “Leaders are instrumental in establishing a team goal, but they need to articulate that goal in a broad way, without providing specific direction and by making it clear that the goal is dynamic and will be co-created with the team over time” (Zuzul & Edmondson, 2016). Although you cannot guarantee that an (academic) team will always deliver you can increase the likelihood of success - by setting the right conditions. (HBR, *On Teams*, p. 23). While there is a great deal of research on leadership in the workplace, including physical and virtual team leadership, additional research is required the intersection between physical and virtual on processes to ensure the “right conditions” required for success in mixed virtual and on-ground teams.

2.1.2 Academic Identity

A key concept for evolving academic identity is the link to developing managerialism in HE. This has been particularly recognised in Business Schools, e.g. see Knights and Clarke, (2014: 339) in their discussion of externally imposed institutional audit footprints such as student satisfaction surveys (NSS) and quality assessment audits, (QAA). Although their sector-level discussion does not include metrics aimed at individual academics. Berg et al. (2013:383) write about how, of late, ‘...private sector practices of accountability, audit, control and surveillance have proliferated in the public sector’.

This paper supports the notion that identity is multiple, and can be relatively fluid, which is particularly relevant to a study of academic routines during a period of transition from physical to virtual in Higher Education. As individuals we embody multiple identities (academic, partner, sister, son etc.), and these can change significantly over our lives and academic careers, so any study on unlearning during academic change should necessarily encompass the notion of academic identity. Here, the term academic identity is used to refer to academics own definition of themselves in a work-related context i.e., the attributes, groups, roles and professional/occupational experiences we use to define ourselves in an employee role (Schein, 1978). While acknowledging the concept of multiple, shifting identities, some identities are more central to our self-definition, and are more embedded and valued in our daily life, while others are only relevant in specific contexts and situations such as our professional lives (see Ashforth and Johnson, 2001; Ebaugh, 1988). The characterization of workplace academic identities is by a greater degree of reflection and intensity, particularly at times of change; reflecting the degree of effort we make within the role itself and the integration between self and role (Ebaugh, 1988). This paper is situated within transitions in workplace academic identity and processes (Ashforth, 2001; Ibarra, 1999). It builds on key insights from several emergent threads from this literature and previous empirical work (Myers et al, 2015; Collins et al, 2016), notably the concept that during imposed workplace change academics experiment with provisional selves that serve as a test for possible, tentative workplace identities, (concurring with Ibarra, 1999). As raised by Pratt, Rockmann and Kaufman, (2006), Baumeister, (1986) and Gioia and Thomas, (1996) academics also actively engage in identity work to stake out, alter and test boundaries of their identities in a shifting HEI environment. These authors established that we construct identities by situated, social action, and that what we desire in our future rather than our present identity is the lens by which we interpret current events and decide upon our actions. Ibarra, (2005) extended this thinking by focusing attention on identities situated in the future, i.e., possible selves, and explicating the processes that move the conspicuous hierarchies that organize them, and in addition proposed ways in which buffering and narrative push a transitory workplace identity from early explorations through to an altered workplace identity without formal rites of passage. The focus within this paper is within the concept of identity but more specifically academic identity. Quigley, (2011), highlighted an issue with the term academic identity due to ‘lack of precision in terms of description and cannot therefore be summed up in a few sentences’. He posited that in order to achieve an understanding of academic identity we need to deconstruct the concept of academic ontology (how academics come to be) in order to understand “ how academics might form epistemologies (how academics come to know)”. Collins (2013) discusses recent changes in the HE environment and the introduction of new procedures that may erode collegiate cultures, challenging traditional ideas of academic identity and associated ways of working. This supports earlier work on new managerial approaches in the sector by Goolnik (2012:19), which highlights academics feelings of mistrust and of professionally and personally unfulfilled selves emerging from imposed change. This is particularly apparent in a setting where some academic team members are based in a physical setting (the hub) and others are locating virtually (the spokes). Although detailed identity studies have produced classifications of alternative selves (Obodaru, 2012), threatened selves (Petriglieri, 2011) and narrative selves (Ibarra and Barbulescu, 2010); for the purposes of this paper, we adopt Clarke and Knight’s (2015:15) assertion that, ‘instead of presenting ‘resistant’ selves, academics are inclined to comply with or conform to the demands of the performance culture...’ Studies such as Hinings, (2005) suggest that academics are increasingly pressurized to consider the way they think and behave as managerial cultures develop, and to necessarily privilege organizational rather than pedagogical, aspects of delivery. They are also described as places where “inventing new knowledge is not a specialized activity...it is a way of behaving, indeed a way of being, in which everyone is a knowledge worker” (Ichijo & Nonanka, 1995). While there are many interpretations, the differentiation ultimately refers to universities that support a culture of continuous growth defined by members as access to time and resources for experimentation, testing, and communication of learnings, regardless of the outcome. In order to establish and create a culture around organizational competencies, universities must explore the interpretive schemas that inform and motivate their members’ behavior. “We define an organizational interpretive schema as a set of shared assumptions, values, and frames of reference that give meaning to everyday activities and guide

how organization members think and act" (Rerupp & Feldman, 2011). There is a gap in the literature on best practices for mixed virtual and physical academic team managers and team members to understand, negotiate meaning and establish a sense of collective identity.

2.1.3 Workspace Environment

Vischer's work (2008) on the environmental psychology of workspace, established the working environment as a factor in whether teams work collaboratively and contribute to the organization. According to Vischer, "How workspace is designed and occupied affects not only how people feel, but also their work performance, their commitment to their employer, and the creation of new knowledge" (Vischer, 2008). Before exploring teams' satisfaction with, perception of, and effectiveness in their working environments, first the modern workspace must be defined. In the last twenty years, the way people work has changed with the introduction of digital technology. In 1997, Newsham wrote: "Conceptualization of the environments for work is shifting from the notion of workspace as a backdrop – that is, passive setting – for work, to the concept of workspace as an active support to – and tool for – getting work done" (Vischer, 2008). In 2017, Gallup described the following changes to the workspace landscape: "Employees are clear about their desire to have more control over when and how they work. More than half of employees 53% say a role that allows them to have greater work-life balance is "very important to them" when considering whether to take a new job...37% would do the same for a job that offered them the ability to work where they want at least part of the time. The modern workforce expects autonomy and many employers have taken note...According to a 2016 Society for Human Resource Management (SHRM) benefits survey, 60% of companies offer their employees telecommuting opportunities - a threefold increase from 1996" (p.149)." There is a gap in the literature on how this increase in permanent members of teams (not transient consultants or freelance teammates), working at times in the same office and at times remotely, impacts teams abilities to build routines and complete actions, and the limitations of their spaces, both physical and virtual to support their needs. To understand the effectiveness of existing spaces, we use Vischer's concept of functional comfort, which " links the physiological aspects of workers' environmental likes and dislikes with concrete outcome measures such as improved task performance and team effectiveness...[and] links users' environmental assessments of their environment to the requirements of the tasks they are performing; this goes beyond general findings on what people like and dislike, toward assessing building performance" (Vischer, 2008). It is critical to differentiate satisfaction from effectiveness: "occupant satisfaction, while offering a broad and comprehensive measure of environmental quality, is not a practical outcome measure for workspace research" (Vischer, 2008)." That said, there may be evidence that perceptions of workplace academic identify, not directly related to task completion may impact workplace motivation. According to Elsbach, "One consistent finding in the above research on identity threat is that when their identity categorizations are threatened, individuals are likely to seek to affirm those identities" (2005). While "social distinctiveness in group boundaries is ranked moderate to high source of threat to identity and affirmation, social status in group boundaries is ranked low source of threat to identity and affirmation (Elsbach, 2003)," and thus there exists a gap in the literature on how mixed VO groups determine the boundaries of their spaces and create a cohesive identity within them.

2.2 Methodology & Analysis

From this inquiry, the following sub questions have emerged:

1. How do we understand the identity processes of virtual, physical and mixed academic teams?
2. Is the working environment a factor in whether teams work collaboratively and contribute to the organization?
3. How does academic management and academic team members negotiate meaning and establish a sense of collective self within mixed teams?
4. How do academic managers and academic team members support the obtaining team goals in diverse geo-locations?

The methodology seeks to gather data on mixed academic team effectiveness as supported by the workspace environment; utilizing an iterative qualitative research approach moving between collection, analysis, and existing literature. The study is in the preliminary stages of investigation but anticipates the following primary research activities:

2.2.1 Unstructured Observation

To gain a better understanding of the routines that exist for mixed academic teams, the tools and spaces used to support them, and the management styles that guide them, we, as are engaging in participant observation aiming to collect data on the repeated behaviors and processes of virtual, on-ground, and mixed academic teams. This data may be analyzed as follows: in the form of journey maps, generated by the researcher, visually synthesizing a “day in the life” for team members and managers; behavioral and spatial heat maps, indicating the relationships between team members, their managers, and their spaces and tool use, providing visual information about the team members’ and managers’ occupation of and preference for specific spaces and tools; relationship diagrams highlighting the relevant connections between teams, tools, and, processes; tables comparing the similarities and differences between the above routines and processes for virtual, on-ground, and mixed academic teams. Having considered the varied routines and behaviors that this observational data will afford, these tools give insight into regular actions and interactions of teammates, not just team members and managers aspirational behaviors, and permit an analysis using a visualization of average day-in-the-life encounters, processes, and relationships.

2.2.2 Surveys

In order to quickly, effectively, and affordably collect qualitative and quantitative data from subjects, surveys will be emailed to all team members and managers participating in this study. The aim of this tool is to gather the teams’ perceptions of their daily routines, their occupancy of both group and individual spaces, and the use of physical and digital resources in virtual, physical, and mixed academic team structures. Participants will also be asked to describe the tools or spaces they seek to have access to. Surveys may also be used to prime the selected participants or within the diary study itself. Data will be coded for numerical responses, but there will also be an opportunity to collect quantitative data from open-ended short questions. Quantitative numerical data will be entered into a spreadsheet and visualized in tables, particularly to compare and contrast to secondary literature findings on core capabilities and collective competencies. These findings may also be referenced for affinization and/or keyword searches to determine patterns along with qualitative responses.

2.2.3 Diary Studies

This paper seeks not only to understand teammates’ and managers’ perceptions of the value and effectiveness of current learning routines, collaborative practices, management styles, spaces, and tools, but also to gain insight into the actual behaviors and interactions between team members and managers, spaces, and tools. A diary study is a method of gathering detailed information about individual’s daily personal and professional lives in which participants self-report on activities, habits, and observations. They are used to understand the routine patterns of behavior and recurring experiences of participants in a specific role. In this study, a desired group of participants, “of a certain educational level” (Collins), will be selected after observation is performed. These participants may receive a kit including a well-structured log to provide direction and collect pertinent information (quantitative and qualitative), a disposable camera, and a sticker pack. Alternately, participants may be asked to collect data digitally via dScout, creating an account to complete “missions” including taking surveys, answering prompts, and photographing surroundings on their mobile devices. Diary study responses will be analyzed through a hybrid approach combining tools used to organize data from observations and surveys: in the form of journey maps, visually synthesizing a “day in the life” for team members and managers; behavioral and spatial heat maps, indicating the relationships between team members, their managers, and their spaces, visual information about the team members’ and managers’ occupation of and preference for specific spaces and tools; relationship diagrams highlighting the relevant connections between teams, tools, and, processes; tables comparing the similarities and differences between the perceptions and realities of the routines and processes for virtual, on-ground, and mixed academic teams as well as in contrast to contrast to secondary literature findings on core capabilities and collective competencies. Additionally, quantitative numerical data will be entered into a spreadsheet and visualized in charts, it may also be referenced for affinization and/or keyword searches along with qualitative responses. Because diary studies may include an element of photography, images may be clustered in an affinity diagram, or used for further photo-sorting interviews as part of the final solution.

2.2.4 Narrative Interviews

“Storytelling is a symbolic form by which actors construct the shared meanings of a social context. Stories are a narrative sense-making structure that link a sequence of events” (Collins, 2010, p.143).

We seek to conduct sociocultural narrative interviews to gain insight into the broader cultural narratives informed by individual experiences within mixed academic groups, or while leading mixed academic groups. Narrative interviews will be conducted with key members of the team, team managers, leadership within the organization, and with subject matter experts in the field of teaming and the built environment. The purpose of these interviews is to create coherent stories about team membership and leadership, and to determine similarities and differences in patterns across individual experiences through analysis. Having gathered participants’ stories, we will record each individual narrative and write an account detailing the process and relevant interpretations. This data may be used to create hybrid narratives for personas. Additionally, keyword searches may be run to identify patterns within the texts. At the conclusion of the primary data collection phase, the insights gleaned from this process will be used to develop and test a co-creation workshop with mixed academic teams, potentially building upon the journey maps developed from primary research, to better understand their environmental needs.

3. CONCLUSION

This paper details a need for investigation of the intersection between a virtual and physical academic working environment and an approach to understanding the optimum work environment that supports collaboration and contribution within academic teams in higher education. Utilizing data from narrative inquiry and action research the research aims to develop a process that can be used by mixed physical and virtual to identify environmental needs and management processes that will enable the design and management of team spaces.

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